

PEPTIDE INHIBITORS FOR VIRAL INFECTIONS AND AS ANTI-INFLAMMATORY AGENTS

SUMMARY

IFN-gamma and IL-10 are cytokine signaling molecules that play fundamental roles in inflammation, cancer growth and autoimmune diseases. Unfortunately, there are no specific inhibitors of IFN-gamma or IL-10 on the market to date. The National Cancer Institute seeks parties interested in licensing or collaborative research to co-develop selective IL-10 and IFN-gamma peptide inhibitors.

REFERENCE NUMBER

E-167-2010

PRODUCT TYPE

- Therapeutics

KEYWORDS

- Peptide
- Peptidomimetic
- Synthetic Peptide Inhibitors
- Psoriasis
- Interferon Gamma
- IFN-gamma
- Interleukin

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

CONTACT

John D. Hewes
NCI - National Cancer Institute
240-276-5515

John.Hewes@nih.gov

DESCRIPTION OF TECHNOLOGY

IFN-gamma and IL-10 are cytokine signaling molecules that play fundamental roles in inflammation, cancer growth and autoimmune diseases. Unfortunately, there are no specific inhibitors of IFN-gamma or IL-10 on the market to date.

NCI investigators at the [Cancer and Inflammation Program](#) have synthesized short peptides that selectively interfere with dimerization of the cytokines and their binding to the corresponding receptor. The peptides include metabolically stable lipopeptides mimicking conserved regions of IL-10 and IFN-

NCI Technology Transfer Center

<https://techtransfer.cancer.gov/pdf/e-167-2010.pdf>

gamma receptors that interfere with STAT3 and STAT1 phosphorylation and subsequent signaling. The lipopeptides strongly inhibit STAT3 and STAT1-dependent growth of cancer cells. These compounds are promising drug candidates for the treatment of cancer and many infectious and inflammatory diseases.

POTENTIAL COMMERCIAL APPLICATIONS

- Cancer, viral infections and anti-inflammatory treatments
- Dermatological treatment for psoriasis

COMPETITIVE ADVANTAGES

- Rationally designed and synthesized to be potent, metabolically stable, and more therapeutic
- Highly selective IL-10 and IFN-gamma inhibitors

INVENTOR(S)

[Nadya Tarasova](#) (NCI), Giorgio Trinchieri (NCI), and Howard Young (NCI)

DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PUBLICATIONS

Timofeeva OA, et al., [PMID: 18154267](#)

PATENT STATUS

- **U.S. Filed:** US Application No. 13/697,259 filed 12/19/2012
- **Foreign Filed:** EP Application No. 11720697.9 filed 5/11/2010

THERAPEUTIC AREA

- Cancer/Neoplasm
- Immune System and Inflammation
- Infectious Diseases
- Skin and Subcutaneous Tissue